

# Botanical Gazette.

Vol. VII.

APRIL, 1882.

No. 4.

**Editorial.**—MR. E. L. GREENE describes six new species of Compositæ in the *Torrey Bulletin* for February. Half of them belong to the genus *Hemizonia*.

NEW STATIONS are being found for *Asplenium ebenoides*, but not much definite information is gained with reference to the origin of this suspicious species. Whether it is a hybrid between *Campylosorus* and *A. ebenium* or not still remains to be decided, though the burden of testimony all seems to be in favor of that idea.

MR. JOHN H. REDFIELD calls attention to the fact that Dr. Gray, in his Synoptical Flora of N. Am., says that *Plantago elongata*, Pursh, of "Bradbury's collection on the Missouri, is unknown, probably a glabrate form of *P. Patagonica*." Pursh's specimen ticketed (probably from Lambert) *P. elongata*, and noted as from Bradbury, has recently been found in the herbarium of the Philadelphia Academy and proves to be unmistakably *P. pusilla*, Nutt.

OUR PLANT COLLECTORS have been unusually active during the past season, and the result is appearing in the unusual number of desirable plants for sale. Handsome catalogues have been received from the Parish Bros., San Bernardino, Calif., Wm. C. Cusick, Union, Oregon, and Prof. Marcus E. Jones, of Salt Lake City. Add to these Mr. Geo. R. Vasey, Mr. C. G. Pringle, Mr. J. G. Lemon, Mr. W. N. Suksdorf, and Mr. H. H. Rusby, and it looks as though a botanist can obtain almost any western plants he desires.

PROF. J. C. ARTHUR has issued a fourth "Contribution to the Flora of Iowa." The Flora of this state bids fair to be thoroughly known, for it contains as fine a corps of active collectors as any state can boast. In the present paper the plants to be credited to the state, and not found in Gray's Manual, are *Artemisia serrata*, Nutt., *Senecio lugens*, var. *Hookeri*, Eaton, *Plantago Rugelii*, DeCaisne, *Gerardia tenuifolia*, var. *macrophylla*, Benth., *Cuscuta Gronovii*, var. *latiflora*, Engelm., *Polygonum Muhlenbergii*, Watson, *Aristida pupurea*, Nutt.

THOMAS P. JAMES.—It is with great regret that the GAZETTE is called upon to record the death of this eminent botanist. He died in Cambridge, Mass., February 22, in his 79th year. Most of his

life was spent in Philadelphia in mercantile pursuits. From his youth he devoted his leisure to the study of *Cryptogamia* and at the time of his death was recognized by the best authorities as one of the two leaders in the scientific world in the knowledge of mosses and lichens. Retiring from business in 1869 and desiring to devote himself to scientific pursuits, he removed to Cambridge. In Philadelphia he was an officer of the Pennsylvania Horticultural Society. He had been treasurer of the American Pomological Society since its origin until a year since, when he resigned that position. He was for a considerable time the chairman of the committee of publication of the American Philosophical Society, and was connected with other important societies. At the time of his death he was engaged in the preparation of a Manual of North American Mosses, in connection with Mr. Leo Lesquereux, to which he was bringing the experience of forty years' study. Quoting the words from the private letter of a friend; "The study of plants, I believe, is conducive to longevity, but cannot confer immortality. We can only gather whilst the summer lasts and winter must come at last 'to shake all our buds from blowing.'"

- **The White Pine.**—Mr. W. H. Ballou, of Evanston, read a paper before the American Association for the Advancement of Science, at Cincinnati, in which occurs the following passage with reference to the origin of the White Pine in Michigan:

The first thought suggested is relative to the origin of the white pine forests. From whence came the species which so strictly confines itself to its own peculiar territory? The oak and most other trees are naturally reproductive, and young trees are equally prolific in their growth on the same soil where the first forest was leveled to the ground. They may be transplanted on almost any territory, and without any special care, speedily growing up to a state of usefulness to man. Not so with the white pine. It is now an almost undisputed fact that it will not reproduce on the parent soil, and that when transplanted elsewhere, its development is marked with early decay in so many instances as to disparage the work. Furthermore, it is beset at once with the same host of natural enemies common to it on indigenous ground.

For some years past my attention has been directed to some facts which may have bearing on the question under consideration. The pine of the level country east of the Rocky Mountains seems to have its best growth in proximity to the lake region. I have noticed that frequently, where a lake recedes, leaving a sandy beach, evergreens, the juniper, pines, etc., are very apt to spring up. With-in the memory of man, a wide sand beach near Waukegan has been made, and on this area a miniature white pine forest has appeared, and thrives. On some lone islands in Lake Erie, of evident recent formation, called the East Sister, the Old Hen, etc., I observed several years since that a similar phenomenon had occurred. These

and other facts point to a recent origin of the pine forests under consideration, which might not have been in existence at the time of the landing of Columbus. This fact is more apparent when it is stated in this connection that the average age of the pine is less than three hundred years in this country; and the other fact is reiterated that it does not reproduce on the same soil. The present pine forests, then, doubtless took the place of some other species, which had exhausted the soil necessary to their existence, a phenomenon well known to naturalists. It matters not whether the seeds were blown there by the winds, or lay dormant in the soil until their turn, or, indeed, what the speculation concerning them is, so long as the facts are inaccessible; certain it is the origin of the pine forests in Michigan is a matter of several centuries ago.

Ueber die weiblichen Bluethen der Coniferen, von A. W. Eichler, Berlin, 1881 (a pamphlet of 32 octavo pages, and a double plate).—In this interesting paper Professor Eichler frankly avows that his views respecting the female flowers of Coniferæ have undergone some important changes since the publication of his Bluetendiagramme. The views now held are, as he states, essentially those found in Sachs' Lehrbuch, but he adduces copious illustrations in support of them, and adds a succinct history of the controversy regarding gymnospermy. Since the time of Robert Brown most botanists have held that the ovules of Coniferæ are naked, while a few have considered them as ovaries with single ovules. The main point, however, in the late discussions has been with respect to the nature of the bodies, often scale-like, from which in most cases the ovular structures arise. Notwithstanding their flatness, the scales have been looked upon by some as axial in their character; by others as leaves and hence carpellary. From the short extract which is translated below it will be seen that the author does not regard it as impossible to harmonize the conflicting views, at least in part. "In all Coniferæ, the scales of the so-called female ament represent nothing but simple leaves; the inner scales, where they are met with, being ventral outgrowths therefrom. The ovules take their origin either on the inner surface of these leaves or in their axils (in *Taxus* and *Torreya* only, they appear at the apex of a special bracted axis. In these two genera the ovules are to be regarded as female flowers; in all the other genera the ament represents collectively the individual female flowers, the leaves being open carpels.). At first sight there appear to be important morphological differences which, in a family so conspicuously natural as Coniferæ, we should not expect to find. Thus in one case the ovule seems to be an appendage of the leaf, in another, axillary and therefore seemingly an axillary shoot, and, thirdly, a body at the end of a leafy axis. But these differences are not so great as they appear. The ovule has the character of a macrosporangium, and may perhaps rightly bear this name, as many have proposed. Therefore, what we see realized in a macro-